Amendments to the Claims

Please replace all previous versions of the claims with the following claim set:

Listing of Claims:

1. (Currently Amended) [[A]] <u>An</u> automated task classification system that operates on a task objective of a user, comprising:

~~a meaningful phrase generator that generates a plurality of meaningful phrases from verbal input and non-verbal input, each of the meaningful phrases being generated based on one of a predetermined set of task objectives;~~

a recognizer that ~~recognizes~~ <u>spots</u> at least one of ~~the generated~~ <u>a plurality of</u> meaningful phrases in an input communication of the user <u>including verbal input and non-verbal input, each of the plurality of meaningful phrases having an association with at least one of a predetermined set of task objectives</u>; and

a task classifier that makes a classification decision <u>based, at least partly, on the spotted at least one of the plurality of</u> ~~in response to the recognized~~ meaningful phrases ~~relating to one of the set of predetermined task objectives~~.

2. (Original) The automated task classification system of claim 1, wherein the meaningful phrases are expressed in a multimodal form.

3. (Original) The automated task classification system of claim 2, wherein the multimodal form includes inputs from at least one channel.

4. (Cancelled)

5. (Cancelled)

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6. (Cancelled)

7. (Original) The automated task classification system of claim 1, wherein the meaningful phrases in the user's input communication received by the recognizer are derived from the user's actions.

8. (Cancelled)

9. (Original) The automated task classification system of claim 1, further comprising a dialog module that enters into a dialog with the user to obtain a feedback response from the user.

10. (Original) The automated task classification system of claim 9, wherein the dialog module prompts the user to provide a feedback response that includes additional information with respect to the user's initial input communication.

11. (Original) The automated task classification system of claim 9, wherein the dialog module prompts the user to provide a feedback response that includes confirmation with respect to at least one of the set of task objectives determined in the classification decision.

12. (Original) The automated task classification system of claim 1, wherein the task classifier routes the input communication based on the classification decision.

13. (Original) The automated task classification system of claim 12, wherein the task objective is performed after the input communication is routed by the task classifier.

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14. (Cancelled)

15. (Original) The automated task classification system of claim 1, wherein the
system is used for customer care purposes.

16. (Currently Amended) The automated task classification system of claim 1,
wherein the classification ~~decisions~~ decision and the corresponding ~~user~~ input
~~communications~~ communication of the user are collected by the system for automated
learning purposes.

17. (Currently Amended) The automated task classification system of claim 1,
wherein the ~~relationship~~ association between the ~~generated~~ plurality of meaningful phrases
and the predetermined set of task objectives ~~includes~~ is based, at least partly, on a measure of
usefulness of [[a]] one of the plurality of meaningful phrases to a specified one of the
predetermined task objectives.

18. (Original) The automated task classification system of claim 17, wherein the
usefulness measure is a salience measure.

19. (Currently Amended) The automated task classification system of claim 18,
wherein the salience measure is represented as a conditional probability of the task objective
being requested given an appearance of one of the plurality of meaningful ~~phrase~~ phrases in
the input communication, the conditional probability being a highest value in a distribution of
[[the]] conditional probabilities over the set of predetermined task objectives.

20. (Currently Amended) The automated task classification system of claim 18, wherein each of the plurality of ~~generated~~ meaningful phrases has a salience measure exceeding a predetermined threshold.

21. (Currently Amended) The automated task classification system of claim 1, wherein the ~~relationship~~ <u>association</u> between the ~~generated~~ meaningful phrases and the predetermined set of task objectives ~~includes~~ <u>is based, at last partly, on</u> a measure of commonality within a language of the meaningful phrases.

22. (Currently Amended) The automated task classification system of claim 21, wherein the ~~commonality~~ measure <u>of commonality</u> is a mutual information measure.

23. (Currently Amended) The automated task classification system of claim 22, wherein each of the plurality of ~~generated~~ meaningful phrases has a mutual information measure exceeding a predetermined threshold.

24. (Original) The automated task classification system of claim 1, wherein the task classifier makes the classification decision using a confidence function.

25 . (Original) The automated task classification system of claim 1, wherein the input communication from the user represents a request for at least one of the set of predetermined task objectives.

26 . (Original) The automated task classification system of claim 1, wherein the input communication is responsive to a query of a form "How may I help you?".

27. (Currently Amended) The automated task classification system of claim 1, wherein each of the verbal input and <u>the</u> non-verbal input are directed to one of the set of predetermined task objectives and each of the verbal input and <u>the</u> non-verbal input is labeled with the one task objective to which it is directed.

28. (Currently Amended) An automated routing system that automatically routes a user's request based on an automated task classification decision, comprising:

~~a meaningful phrase generator that generates a plurality of meaningful phrases from verbal input and non-verbal input, each of the meaningful phrases being generated based on one of a predetermined set of task objectives;~~

a recognizer that ~~recognizes~~ <u>spots</u> at least one of the ~~generated~~ <u>plurality of</u> meaningful phrases in the user's request <u>including verbal input and non-verbal input, each of the plurality of meaningful phrases having an association with at least one of a predetermined set of task objectives</u>;

a task classifier that makes a classification decision <u>based, at least partly, on the spotted at least one of the plurality of</u> ~~in response to the recognized~~ meaningful phrases ~~relating to one of the set of predetermined task objectives~~; and

a task router that routes the user's request in order to perform at least one of the task objectives based on the classification decision.

29. (Original) The automated routing system of claim 28, wherein the meaningful phrases are expressed in multimodal form.

30. (Original) The automated routing system of claim 29, wherein the multimodal form includes inputs from at least one channel.

31. (Cancelled)

32. (Cancelled)

33. (Cancelled).

34. (Original) The automated routing system of claim 28, wherein the meaningful

phrases in the user's input communication received by the recognizer are derived from the

user's actions.

35. (Cancelled)

36. (Original) The automated routing system of claim 28, further comprising a dialog

module that enters into a dialog with the user to obtain a feedback response from the user.

37. (Original) The automated routing system of claim 36, wherein the dialog module

prompts the user to provide a feedback response that includes additional information with

respect to the user's request.

38. (Original) The automated routing system of clam 36, wherein the dialog module

prompts the user to provide a feedback response that includes confirmation with respect to at

least one of the set of task objectives determined in the classification decision.

39. (Currently Amended) The automated routing system of claim 36, wherein if the

task classifier cannot make a classification decision after the dialog is conducted with the

user, the router routes the user's request to a human for assistance.

40. (Original) The automated routing system of claim 39, wherein the task objective is performed after the user's request is routed.

41. (Cancelled)

42. (Original) The automated routing system of claim 28, wherein the system is used for customer care purposes.

43. (Currently Amended) The automated routing system of claim 28, wherein the classification ~~decisions~~ decision and the corresponding user ~~requests~~ request are collected by the system for automated learning purposes.

44. (Currently Amended) The automated routing system of claim 28, wherein the ~~relationship~~ association between the ~~generated~~ plurality of meaningful phrases and the predetermined set of task objectives ~~includes~~ is based, at least partly, on a measure of usefulness of [[a]] one of the plurality of meaningful phrases to a specified one of the predetermined task objectives.

45. (Original) The automated routing system of claim 44, wherein the usefulness measure is a salience measure.

46. (Currently Amended) The automated routing system of claim 45, wherein the salience measure is represented as a conditional probability of the task objective being requested given an appearance of the meaningful phrase in the user's request, the conditional

probability being a highest value in a distribution of [[the]] conditional probabilities over the

set of predetermined task objectives.

47. (Currently Amended) The automated routing system of claim 45, wherein each

of the plurality of ~~generated~~ meaningful phrases has a salience measure exceeding a

predetermined threshold.

48. (Currently Amended) The automated routing system of claim 28, wherein the

~~relationship~~ association between the ~~generated~~ plurality of meaningful phrases and the

predetermined set of task objectives ~~includes~~ is based, at least partly, on a measure of

commonality with a language of the plurality of meaningful phrases.

49. (Currently Amended) The automated routing system of claim 48, wherein the

~~commonality~~ measure of commonality is a mutual information measure.

50. (Currently Amended) The automated routing system of claim 49, wherein each

of the plurality of ~~generated~~ meaningful phrases has a mutual information measure exceeding

a predetermined threshold.

51. (Original) The automated routing system of claim 28, wherein the task classifier

makes the classification decision using a confidence function.

52. (Original) The automated routing system of claim 28, wherein the user's request

represents a request for at least one of the set of predetermined task objectives.

53. (Original) The automated routing system of claim 28, wherein the user's request

is responsive to a query of a form "How may I help you?".

54. (Currently Amended) The automated routing system of claim 28, wherein each

of the verbal ~~user~~ input and the non-verbal ~~user~~ input are directed to one of the set of

predetermined task objectives and each of the verbal input and the non-verbal input being

labeled with the one task objective to which it is directed.

55.   (Cancelled)

56.   (New) The automated task classification system of claim 1, further

comprising:

an interpretation module configured to apply a confidence function based on a

probabilistic relation between the spotted at least one of the plurality of meaningful phrases in

the input communication of the user and the at least one of the predetermined set of task

objectives, wherein

the task classifier makes the classification decision based, at least partly on, a result of

the applied confidence function.

57.   (New) The automated routing system of claim 28, further comprising

an interpretation module configured to apply a confidence function based on a

probabilistic relation between the spotted at least one of the plurality of meaningful phrases in

the user's request and the at least one of the predetermined set of task objectives, wherein

the task classifier makes the classification decision based, at least partly, on a result of

the applied confidence function.